June 5, 1934. W. H. WINTERS 1,961,183

BRAKE SHOE

Filed July 16, 1932

Fig. 1.

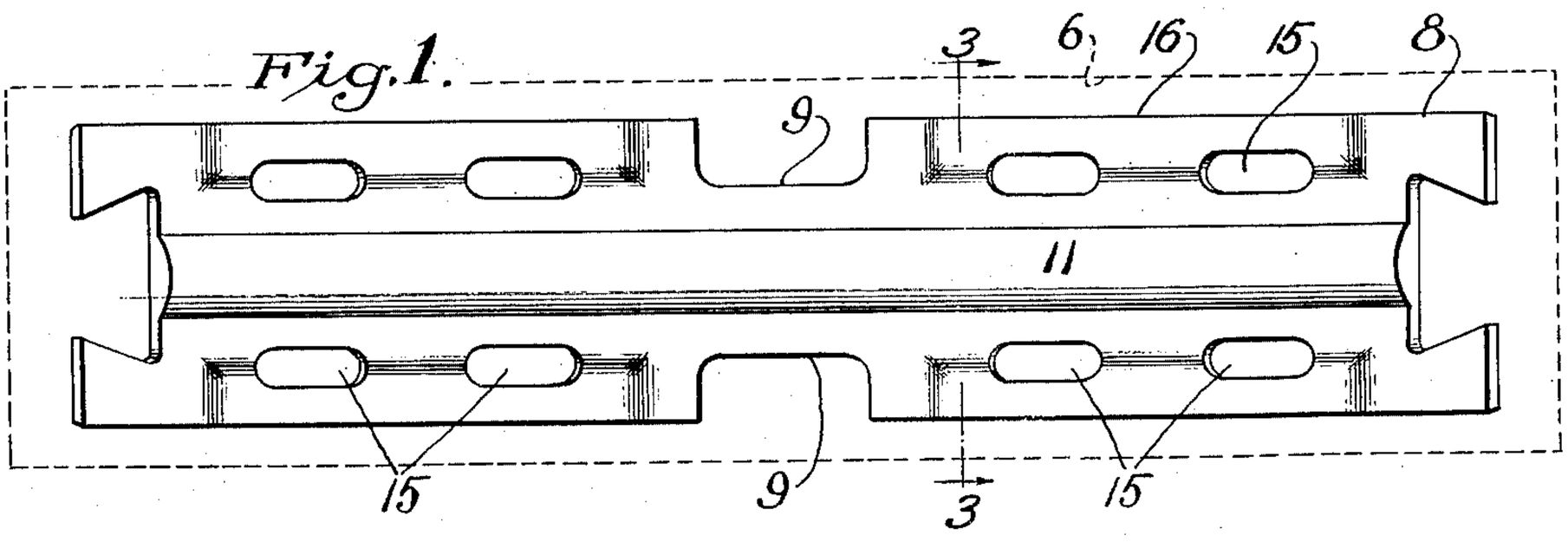



Fig. 2.

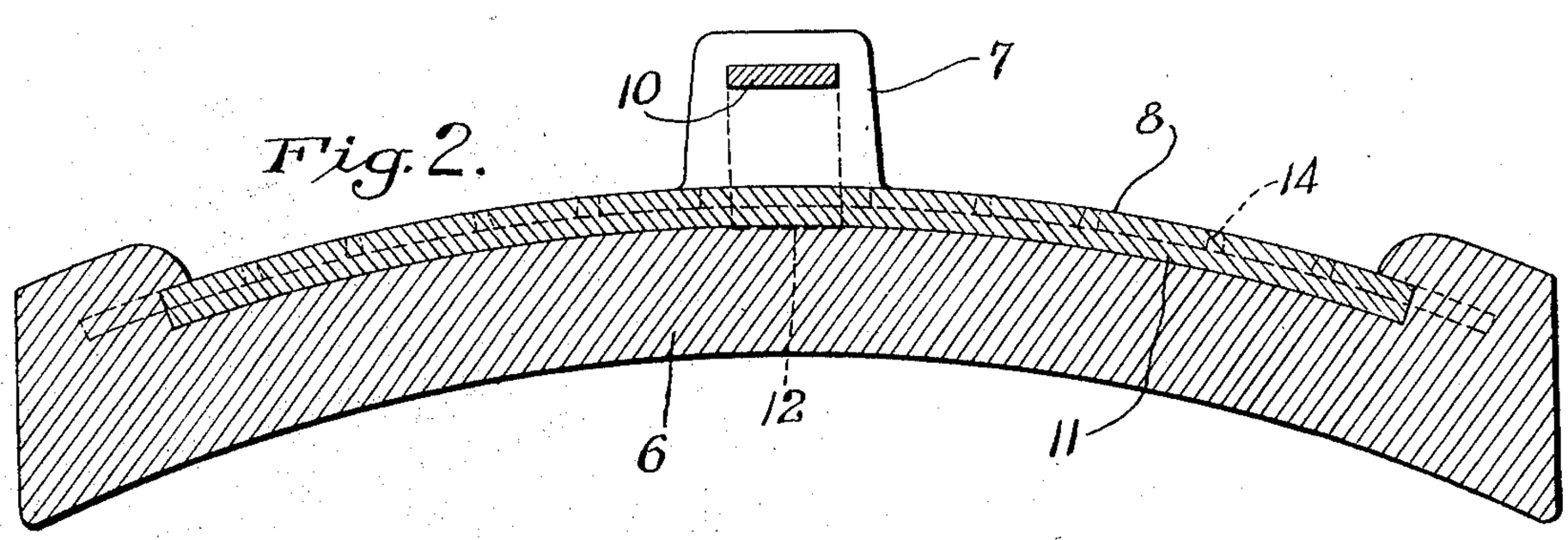
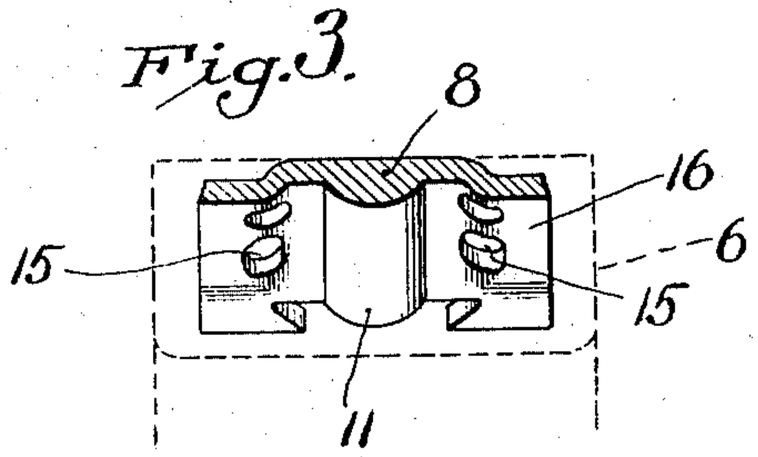



Fig. 3.




INVENTOR.
Wilbur H. Winters
BY Wm O Belt
ATTORNEY

Patented June 5, 1934

1,961,183

# UNITED STATES PATENT OFFICE

1,961,183

## BRAKE SHOE

Wilbur H. Winters, Larchmont, N. Y., assignor to The American Brake Shoe and Foundry Company, Wilmington, Del., a corporation of Delaware

Application July 16, 1932, Serial No. 622,873

1 Claim. (Cl. 188—258)

This invention relates to brake shoes of that type which includes a reenforce back embedded in the body of the shoe at the back thereof to hold the parts of the body together in case of fracture.

The object of the invention is to provide a strong, rigid and substantial reenforce back which will resist the stresses, strains and fatigue to which the shoe is subjected in service and which will hold the parts of the body together when fractured while the shoe remains in service.

Another object of the invention is to provide the reenforce back with a longitudinally extending rib on its under side which can be formed in the rolling operation for making the blank for the back.

And a further object of the invention is to provide the back on its under side with a longitudinally extending segmental rib to strengthen the back over a considerable area transversely thereof and without lessening the customary wear of the body of the shoe.

In the accompanying drawing I have illustrated the invention in two embodiments and referring thereto

Fig. 1 is a plan view of the under side of a reenforce back with the body of the shoe indicated in broken lines.

Fig. 2 is a central longitudinal sectional view of a brake shoe having a back of the kind shown in Fig. 1.

Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1.

Referring to the drawing, 6 is the body of the shoe, 7 is the attaching lug, and 8 is the reenforce back which is embedded in the body of the shoe at the back thereof during the casting operation. The back consists of a strip of ductile metal slightly shorter and narrower than the body and bent arcuately to correspond with the curvature of the body. It is customary to provide the recesses 9 in the side edges of the back or otherwise shape the back at the middle thereof to receive the legs of the lug strap 10. These recesses weaken the back at the middle portion of the shoe where it is found in practice the shoe is most liable to fracture.

My invention overcomes this weakness in the back by providing a rib 11 on the under side of the back and extending preferably from end to end thereof. This rib is formed during the rolling operation on the strip from which the back is made. The rib is of segmental shape in cross section and comparatively wide to distribute its strengthening effect transversely over the back. It is not necessary to make the rib of a thickness to extend any deeper into the body of the shoe than the inturned ends 12 of the lug strap and therefore the provision of this rib on the under side of the back does not lessen the wear of the body because the limit of wear set for the shoe requires it to be removed from service before the body wears down to permit the ends 12 to contact with the wheel.

The marginal side edges of the back are depressed at 16 and these depressions extend in the form of back illustrated in the drawing between the end portions and the middle portion of the back. The depressions at the opposite side edges of the back give to the intermediate portion of the back a crowned effect, and the rib 11 is disposed on the underside of the back and extends through the crowned portions thereof. The back may be provided with cut-outs 15.

The invention strengthens the back to increase its rigidity and enables it to resist the stresses and strains, vibrations and fatigue to which the shoe is subjected in service so that it will outwear the body and hold the parts of the body together when fractured. Owing to the additional strength afforded by the rib it is possible to make the back of lighter gage and since the rib is formed on the strip in a rolling operation when the strip is being made it does not add to the cost of the back. The segmental shape of the rib is important because it distributes the strength over a considerable area transversely of the back and at the same time preserves the stiffening truss effect of the rib.

I have shown and described the invention in selected embodiments which have been found to be suitable for the purpose but I do not intend thereby to limit the invention to any particular form of back or shoe and I may embody the invention in any back and shoe for which it is or may be adapted and within the scope of the following claim.

I claim:

A brake shoe comprising a body and a reenforced back embedded therein, said back consisting of a single strip of metal and having recesses in the side edges of the back, the marginal side edges of the back being depressed, and a longitudinally extending rib segmental in cross-section on the underside of the back between said recesses and between said depressions.

WILBUR H. WINTERS.